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The Manpower Shortage

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JUDGING from the low level of draft calls in the summer of 1951 and by the apparent ease with which mobilization to the projected level of 3,500,000 men was effected in the past year, it might be assumed that the worst of the manpower problem had been solved. Consequently, one might conclude that the problem of maintaining an adequate supply of technically trained personnel under mobilization was less acute. Actually the next few months are likely to demonstrate the opposite. If the level of 3.5 millions is not reduced, the demands of the military services for manpower certainly will rise sharply, and the problem of holding scientists and engineers in their employment will become correspondingly more difficult unless some clear-cut program for allocating manpower is developed.

These predictions are based on quite simple calculations, which show that the need for military manpower will overshadow every other manpower requirement for some time to come. To understand the implications of military demands, it is easiest perhaps to think in terms of the long pull. If we assume that the full strength of the armed services–3,500,000 men–must be maintained from those reaching military age without recourse to veterans, reservists, or others above the minimum age of military liability, then the average length of service for all acceptable youths reaching military age (estimated to be 850,000 annually) would be approximately four years. The following table gives the percentages of availables required for each of the assumed statutory periods of service:

I AVERAGE LENGTH OF SERVICE	II ANNUAL REPLACEMENT RATE	III PERCENTAGE OF AVAILABLES
2 years	1,750,000 men	206 per cent
3 "	1,167,000 "	137 "
4 "	875,000 "	103 "
5 "	700,000 "	82 "

The annual replacement rate (column II) is obtained by dividing 3,500,000 (full strength of the Armed Services) by the average length of service (column I); e.g., $3{,}500{,}000 \div 2 = 1{,}750{,}000$. The percentage of availables is obtained by dividing the annual replacement rate (column II) by the total number of acceptable youths annually reaching military age (850,000 men) and multiplying by 100; e.g., $1{,}175{,}000 \div 850{,}000 =$ 206 per cent.

The above figures immediately demand an explanation of how the present mobilization of nearly 3.5 million men has been achieved. This was possible because of the existence of several groups—the pool of males without military service between the ages of 18 and 26, personnel in military reserve status, and the career personnel. Most of the personnel now in uniform were drawn from the first and second groups. However, reserve personnel involuntarily recalled to duty are due to be discharged shortly; and, according to present estimates, the number of draft-eligible males, who will

be available, is insufficient to meet military demands beyond a 20-month period.

The significance of the above estimates can be lessened only by an increase in career personnel. There are probably 750,000 career men now in the military services, serving 20 or more years. Subtracting this number from the armed force target total of 3.5 millions leaves a goal of 2,750,000 to be maintained from short-term enlistments. Using the latter figure to recompute columns II and III in the table above, the percentages in the right-hand column, reading downward, would become 160, 108, 80, and 68 per cent.

This would indicate that, with the present number of career personnel serving in the military services and with the assumption that they do not need to be replaced, more than 2 years of service would be required if every qualified youth were to serve without exemption. Since there is little expectation that the number of career personnel will increase substantially, average monthly draft calls for the next 20 months may go as high as 75,000 men, a figure in excess of the number of qualified youths coming of age monthly.

These figures present the dilemma facing the Nation. To maintain over a long-time period a military strength of 3.5 million men will require more than two years of service from all able-bodied youth, even without exemptions. With exemptions the average length of service of all youth not exempted must increase. Without exemptions the whole technology of the Nation is in jeopardy.

In the meantime the demand for technological personnel has mounted enormously. This summer well over twice as many scientists and engineers as were available could have been absorbed by the research, production, and training facilities of the Nation. There exists a genuine shortage, injurious to the mobilization effort. Moreover, even without the impact of the draft, the training of both scientists and engineers will decrease sharply until at least 1955. By that time the production of technically trained personnel will be substantially below the level required to maintain the normal non-emergency technical activities of the Nation.

This situation is probably as serious as any facing the country. It is obvious that the same man cannot serve as a soldier in combat and as a scientist or engineer in technical work at the same time. Neither job should have priority over the other since both are vital to national security. The problem is to utilize the manpower resources of the Nation so that the technical activities of the Nation, including those of the military arms, contribute maximum power for defense. This cannot be done if civilian technical services are relegated to a secondary level of priority.

To meet this unprecedented problem, the Federal Government has sought advice from various quarters. Early in 1951, the National Security Resources Board requested the National Academy of Sciences to recommend measures which the Federal Government should take to insure maximum utilization of scientific and engineering personnel. In response to this request President Bronk appointed a committee of nationally known scientists to examine certain aspects of the problem and to report its findings to the Academy. In April of this year the Committee submitted its report and proposed a resolution which was adopted by the Academy members in business session. This resolution recommended the establishment of a National Scientific Personnel Board in the Office of Defense Mobilization, in appropriate relationship with the National Science Foundation and the Selective Service. It further recommended that this Board study intensively the problems relating to the utilization of professional scientific and technical manpower, accept responsibility for formulating appropriate policies, and advise the Department of Defense and other Government agencies and civilian groups on problems of specialized manpower. The membership of the Academy Committee which studied the problem and the text of the resolution adopted in April appear on page 43 of the May–June issue of NEWS REPORT.

Although the recommendations of the Academy have not been implemented fully to date, they have been used by the Thomas Committee of the National Security Resources Board in drafting recommendations on the manpower problem for presentation

to the Armed Services Committees of the Congress. It is believed that the Academy recommendations will be given careful consideration when the problem of specialized manpower is discussed.

To facilitate the handling of problems related to utilization of scientific and technical personnel, the Director of Defense Mobilization has established a policy committee to make recommendations on all policy issues. This committee is headed by Arthur S. Flemming, Assistant to the Director, Office of Defense Mobilization. Other members are: Ralph D. Bennett, U.S. Naval Ordnance Laboratory; Douglas Brown, Princeton University; Hugh L. Dryden, Chairman, Interdepartmental Committee on Research and Development; S. B. Fracker, Assistant to the Administrator, Agricultural Research Administration; John F. Hilliard, Chief, Program Development, Defense Manpower Administration; S. C. Hollister, Cornell University; Warren C. Johnson, University of Chicago; Earl J. McGrath, U.S. Commissioner of Education; Stanley W. Oliver, President, International Federation of Technical Engineers, Architects, and Draftsmen's Unions; M. H. Trytten, Director, Office of Scientific Personnel, National Research Council; Alan T. Waterman, Director, National Science Foundation; and Harry W. Winne, Vice-President, General Electric Company.

The establishment of the above committee by the Director of Defense Mobilization is an indication of the importance placed upon the wise utilization of scientific and technical personnel in this period of partial mobilization. It is a step in the right direction and may lead to a more realistic approach to a solution of the manpower shortage.

Artificial Limbs

PAUL E. KLOPSTEG
Chairman, Advisory Committee on Artificial Limbs

DURING World War II the Surgeon General of the Army, Major General Norman T. Kirk, faced with the problem of supplying a large number of veterans with artificial limbs, conducted an investigation of devices available. Finding a complete lack of agreement among manufacturers in regard to artificial limb requirements and that no real research program had ever been conducted in this field, the Surgeon General requested the assistance of the National Research Council.

Accordingly in 1945, the National Research Council established the Board for Prosthetic and Sensory Devices for the purpose of conducting the research and development of improved artificial limbs and aids to the blind. Under the Board, two committees were formed: the Committee on Prosthetic Devices, later renamed the Committee on Artificial Limbs, and the Committee on Sensory Devices.

Prior to July 1, 1947, the Committee on Artificial Limbs contracted with various laboratories throughout the country to conduct certain studies on artificial limbs. At that time the members of the Committee felt that sufficient work had been done to show that certain avenues of approach should be followed and others abandoned; therefore, a smaller, reorganized program was indicated. Upon its own recommendation, the Committee on Artificial Limbs was dissolved and replaced by the Advisory Committee on Artificial Limbs, all research contracts were terminated, and the new program was organized with the support of the Veterans Administration and the Armed Services. This program is in effect today with the Advisory Committee composed of the following members: Rufus H. Alldredge, New Orleans, La.; Howard D. Eberhart, University of California, Berkeley; Robert R. McMath, University of

Michigan; C. Leslie Mitchell, Henry Ford Hospital; Craig L. Taylor, University of California at Los Angeles; T. Campbell Thompson, New York City; and Philip D. Wilson, Columbia University. Robert S. Allen, Washington, D. C.; Henry Dreyfuss, Pasadena, Calif.; Herbert Elftman, Columbia University College of Physicians and Surgeons; Robert H. Hose, New York City; Verne T. Inman, University of California Medical School; and Edmond M. Wagner, San Mareno, Calif., serve as consultants.

At various times the program has been supported financially by the Office of Scientific Research and Development, the U. S. Army, and the Veterans Administration. Today the Veterans Administration supplies direct financial support, while both the Army and the Navy Departments contribute through the research work of their own laboratories.

With the assistance of its Lower Extremity and Upper Extremity Technical Committees, the Advisory Committee on Artificial Limbs acts as an advisor to the laboratories under contract to the Veterans Administration and coordinates its program with the work performed by the Army, Navy, Air Force, Orthopedic Appliance and Limb Manufacturers Association, and independent inventors and laboratories.

The Advisory Committee also recommends to the Veterans Administration devices and techniques when, in its opinion, they have been proved satisfactory through rigorous laboratory and service tests for distribution to qualified beneficiaries. In addition, the Committee acts as a consultant to the Veterans Administration in reviewing proposed projects in the field of artificial limb research and development.

The artificial limb program was initiated by making a through study of all work that had been conducted previously. It was readily apparent that in order to contribute significantly it was necessary to conduct thorough studies in the structure and function of the normal limb. Accordingly, a biomechanics group consisting of doctors and engineers was established at the University of California to study the lower limb. This group, headed by Howard D. Eberhart, Professor of Civil Engineering, and Verne T. Inman, Associate Clinical Professor of Orthopedic Surgery, has investigated principles of locomotion. Forces and movements occurring during walking and climbing under a variety of conditions have been recorded with specially designed equipment. The action of each bone and major muscle group in the leg has been studied.

Simultaneously, a group to conduct basic studies of the upper extremities was formed at the University of California at Los Angeles under the direction of Craig L. Taylor, Associate Professor of Engineering and Biophysics. Here the problem was attacked by determining the order of importance of the various functions provided by the hand and arm.

From the outset it was apparent that several years would be required to complete the necessary fundamental work. However, it was felt that immediate contributions could be made by using newer and more efficient materials than were being used in the fabrication of limbs. Arms fabricated with plastic laminates proved to be much lighter and easier to keep clean than the steel and leather types in common usage at that time. Steel cables enclosed in a wound wire casing were much more efficient than the leather and rawhide thongs that had been used in force transmission systems for upper extremity devices. However, it was not possible in every case to improve an article by the use of newer materials. For example, the wooden leg covered by rawhide that had been developed through the years on an empirical basis was found to be an efficient type of construction. Recognition by the research group of the excellence of many results coming from experience in the limb industry and equal recognition by the members of the industry of the excellence of research and systematic development by scientific methods provided a sound basis for the close cooperation that exists between the two groups.

Two commissions composed of orthopedic surgeons and engineers were sent to Europe to survey amputation and artificial limb practices there. Among other things, work on the suction socket and the technique of cineplasty were initiated and stimulated by what was seen abroad.

The suction socket is a method of suspension of artificial legs for above-knee amputees. By carefully fitting the socket to the stump and using a small air valve, sufficient vacuum is created between the stump and socket to retain the artificial leg in place even under adverse conditions. A study of all aspects of the suction socket as a technique rather than as a device has resulted in its major improvement and general use in this country.

The techniques of the cineplasty operation—the construction of a tunnel through muscle primarily to provide a source of energy for movement of devices—have been studied and improved. An intensive program in the design of devices suited to this type of surgical treatment of an amputation is under way.

The development work was started in various military and commercial laboratories as soon as possible after the initiation of the fundamental studies. The Army Prosthetics Research Laboratory at Forest Glen, Md., under the direction of Lt. Col. Maurice J. Fletcher, has developed the voluntary closing hook for arm amputees. This device introduces a new concept in the design of the hook. Previously, the grasping power of a hook was produced by tension provided by rubber bands and could not be controlled readily by the amputee. In the hook developed by the Army Prosthetics Research Laboratory the rubber band has been replaced by an ingenious mechanism which permits the amputee to apply the desired force to the article being handled and lock the hook fingers at the desired point. Thus it becomes possible to handle an ice cream cone without crushing it and a moment later to use a screwdriver or a pair of pliers.

A new artificial hand has also been produced which utilizes essentially the same mechanism employed in the hook. The hand, fabricated mainly of stainless steel and aluminum alloy, is covered by an exceedingly realistic plastic glove. This glove is thin, inexpensive, and can be mass-produced. A survey of skin colors has shown that six basic shades will satisfy 95 per cent of the Caucasian population, a fact that permits finished gloves to be stocked by a dealer thereby eliminating the necessity for custom work. Lifelike gloves are not new, but those that have been developed in the past have been expensive custom-made articles usually used over a passive prosthesis and, therefore, too inflexible for use over a functional hand.

Under the direction of T. J. Canty, the Navy Artificial Limb Shop, formerly at Mare Island and now at Oakland, California, has been active in using cineplasty and developing lower extremity prosthetics. The functional ankle which provides an approach to simulated natural action, the plastic shank, and a knee unit which automatically adjusts for changes in walking cadence are typical examples of the work of this laboratory.

The Air Force has contributed by underwriting initially the development costs of a hydraulic-knee unit invented by its doctor-scientist team, Ulrich Henschke and Hans Mauch of the Aero-Medical Laboratory, Wright-Patterson Air Force Base. The primary purpose of this unit is to provide the amputee with a means of reducing the hazard of falling and to provide a natural gait. John W. Heim of the Aero-Medical Laboratory has assisted greatly in carrying this program to its completion. The International Business Machines Corporation; Northrop Aircraft, Inc.; Cantranis, Inc.; Vickers, Inc.; and other organizations have effectively participated in the program often at substantial expense to themselves.

No item can be recommended for universal use unless it has been thoroughly tested. This function is the responsibility of the Prosthetic Devices Study Group of the New York University under the supervision of Renato Contini. Devices produced by laboratories are subjected to a series of strenuous tests designed to determine the deficiencies as well as the attributes. The functions supplied by the device, the maintenance requirements, and the psychological and physiological effects on the amputee are among the many factors checked in the course of these tests.

Among the outstanding developments that have met the test requirements and have been recommended to the Veterans Administration are the suction socket and the new hook and hand developed by the Army Prosthetics Research Laboratory.

Many other promising items and techniques are in various stages of development and testing.

In addition to the development of individual devices, the Advisory Committee has been active in fitting such devices to the amputee. The Committee has sponsored pilot schools in order to introduce the suction socket and certain upper extremity components properly. In each instance the Veterans Administration and the Orthopedic Appliance and Limb Manufacturers Association have continued to disseminate information by holding other schools throughout the country. The Advisory Committee for Artificial Limbs is currently sponsoring a small training team which is visiting military amputation centers, Veterans Administration installations, and civilian limb shops. This latter project is a part of the educational program of the Veterans Administration and is supported by a contract with the National Research Council.

Conservation in Building Construction

WILLIAM H. SCHEICK
Executive Director, Building Research Advisory Board

IN ADDITION to its responsibility to industry, independent research laboratories, and educational institutions, the Building Research Advisory Board of the National Research Council, commonly known as BRAB, is called on to conduct research surveys and to provide technical advice to the Government. A recent example of this type of activity is the contract between the Defense Production Administration and the National Academy of Sciences–National Research Council for advisory services by BRAB.

At a time when the country's production resources are split between civilian needs and the requirements of the various Government agencies, a close scientific study of ways and means to encourage conservation in building materials becomes imperative. To date, military necessity has reduced critical materials for civilian construction by approximately 20 per cent. Thus the over-all purpose of this study will be directed toward providing for the construction of as many military and civilian buildings as possible within the limits of the materials available.

At the request of Howard Coonley, Director of the Division of Conservation of the Defense Production Administration, BRAB was asked to serve as an advisory body to a new Subcommittee for Building Construction organized under the Conservation Coordinating Committee of the Defense Production Administration. With James W. Follin of the General Services Administration as chairman, the Subcommittee is composed of representatives of all Government agencies concerned with Federal construction, both military and civilian. William H. Scheick, Executive Director of BRAB, was named to this Subcommittee to provide liaison between it and BRAB.

Recent determinations of the Conservation Coordinating Committee obtained through the Subcommittee promise to have far-reaching and constructive results in the unification of standards in design and construction among Federal agencies. It is felt that the value of the study might be reflected later in the methods and practices used in private industry and thus might be of long-term benefit. Should the national emergency become more acute, the Committee might find its task evolving into recommending emergency standards, although for the present such measures do not seem probable.

The study will deal only with permanent buildings; that is, buildings expected to last a minimum of 25 years. The initial effort will be directed toward the individual parts of structures requiring critical materials. The structure, framing, and mechanical equipment will be the major items given first consideration. Climatic conditions and location, as well as intended use and occupancy, also will be considered fully in arriving at recommendations for standardization and unification.

The Subcommittee has identified and endorsed as sound engineering practice four design standards: the present national standards for structural steel, reinforced concrete, stress-grade lumber, and plumbing installation. BRAB will make a further study of technical information on existing practices, standards, and regulations which will provide reliable criteria for evaluating conservation measures. As the study progresses, BRAB also will investigate proposed and alternative practices which are not in effect generally but appear to have potentials for conservation.

A second phase of the study will be the review of extant practices in Federal building construction including military construction. This part of the study will be concerned especially with identifying conservation measures practiced by Government agencies engaged in construction and with determining differences in the standards of the various agencies.

A period of one year is allowed for the BRAB study by the terms of the contract, and interim reports are requested which will make available results determined in the early phases of the work. The reports and recommendations by BRAB will be used by the Conservation Division of the Defense Production Administration as a basis for establishing the conservation policies required by defense mobilization.

BRAB has enlisted the technical aid and advice of many people representing the technical bodies which establish standards for the building industry. Recent appointees to the BRAB staff to aid in this project are Grosvenor Chapman, Registered Architect; Mahmood K. Taher, Registered Civil and Architectural Engineer; and Scott A. Heider, Registered Mechanical Engineer. Vincent T. Manas, on detail from the Department of Commerce, is helping with the study also. Mr. Manas was formerly the Executive Secretary of the Coordinating Committee for the National Plumbing Code.

Representative advisory groups will be called together to study data and information collected by the BRAB technical staff, to evaluate this information, and to provide opinions on specific phases of the conservation problem. Based upon these studies and upon investigations conducted by the staff, recommendations will be formulated and transmitted to the Defense Production Administration.

SCIENCE NEWS

ACADEMY PRESIDENT TO ATTEND BRITISH ASSOCIATION MEETINGS

Detlev W. Bronk, President of the National Academy of Sciences, will attend the Annual Meeting of the British Association for the Advancement of Science to be held in Edinburgh, August 8–15. President Bronk will represent the American Association for the Advancement of Science. Following the meetings in Edinburgh, he will make a brief trip to Germany. He will return to the United States late in August.

VISITOR FROM THE ROYAL SOCIETY

The Assistant Secretary of The Royal Society, D. C. Martin, will be in Washington from September 13 to 20 as guest of the National Academy of Sciences–National Research Council. During his stay he will give an illustrated talk at the Academy–Council building on "The Royal Society and Science in Britain." The National Research Council of Canada has invited him to visit universities in Canada in late September and October.

COUNCIL CHAIRMAN RETURNS TO STANFORD

Douglas Whitaker, Chairman of the National Research Council for the past nine months, has returned to Stanford University to assume his new duties as Dean of Humanities and Sciences. His departure from the Chairman's office on the second floor of the Academy–Council building was delayed as long as possible, but pressure from the University authorities was too great, and he left on June 30.

As Chairman of the National Research Council, Dr. Whitaker was responsible for the effective functioning of the Council's activities and for the establishment of new programs and policies to increase the contribution of science to national welfare. He served in this capacity with fairness, precision, warm understanding, and a delightful sense of humor. Under his leadership many new activities were started, and an effort was made to bring the various Council activities into a closer working relationship.

The close of his term as Chairman of the National Research Council does not mark the termination of Dr. Whitaker's association with the Council. He will continue to serve as Chairman of the AEC Predoctoral Fellowship Board in the Biological Sciences and as a member of the Committee on Human Reproduction.

All who have been associated with Dr. Whitaker in the Academy–Council will remember him with affection and will follow his future activities with keen interest.

GORDON RESEARCH CONFERENCE

Carl J. Wessel and Harold G. Shirk, members of the staff of the Prevention of Deterioration Center, NRC, attended the Gordon Research Conference held in New Hampton, New Hampshire, July 2–6. Dr. Wessel served as moderator for the special session dealing with structure and fungicidal activity of organic compounds. Dr. Shirk presented a paper entitled "Paralleling Indication of Steric Hindrance in Some Phenols and Fungitoxicity." Glenn A. Greathouse, Director of the Prevention of Deterioration Center, was elected Chairman of the Gordon Research Conference for 1952.

GLOSSARY OF TERMS

Progress is being made in the preparation of the *Glossary of Terms in Nuclear Science and Technology*. Review Committees for Sections I and VIII of the *Glossary* met in Washington July 27 and 28 and July 12 respectively. Members of the Review Committee for Section I were Henry Semat, College of the City of New York, *Chairman;* T. P. Kohman, Carnegie Institute of Technology; Duane Roller, Wabash College; and A. H. Snell, Oak Ridge National Laboratory. Members of the Review Committee for Section VIII were Karl Cohen, H. K. Ferguson Company, *Chairman;* Wendell H. Furry, Harvard University; D. J. Pflaum, Atomic Energy Commission; and C. P. Keim, Oak Ridge National Laboratory.

INFRARED ABSORPTION SPECTRA

A Committee on Infrared Absorption Spectra has been established by the National Research Council. Wallace R. Brode, Associate Director, National Bureau of Standards, has been appointed Chairman. Other members are E. Carroll Creitz, National Bureau of Standards, *Secretary;* R. Robert Brattain, Shell Development Company; Bryce L. Crawford, University of Minnesota; Robert R. Hampton, U.S. Rubber Company; Lester E. Kuentzel, Wyandotte Chemicals Corporation; and James D. Stroupe, Rohm and Haas Company. Arrangements have been made for the Committee to work in close collaboration with the National Bureau of Standards.

The function of the Committee will be to study and develop arrangements for collecting and distributing spectral absorption data on organic and inorganic compounds. More specifically the work of the Committee will involve: *a)* design of a punch card system for presenting and distributing infrared absorption data in both graphical and tabular forms; *b)* devising and implementing methods of collecting the desired spectral data; *c)* directing and supervising evaluation of the collected spectral data, appraising their quality, and devising means for checking the reported observations and the making of new measurements

when the available data are unsatisfactory or conflicting; *d)* preparation of a bibliography; and *e)* supervision of the printing of punch cards and other forms of record.

ENGINEERING AND INDUSTRIAL RESEARCH

The Annual Meeting of the Division of Engineering and Industrial Research featured the following technical papers on work sponsored by the Division:

a) "Truck Traffic Tests in Maryland" by Fred Burggraf, Acting Director, Highway Research Board.

b) "Climatic Research in the Building Industry" by W. H. Scheick, Executive Director, Building Research Advisory Board.

c) "Metallic Titanium" by Robert Franklin Mehl, Chairman, Metallurgical Advisory Board.

Mr. Burggraf described the effects of high axle truck traffic on concrete pavements. Mr. Scheick outlined new activities of the Building Research Advisory Board and other agencies that had resulted from a research correlation Conference on Weather and the Building Industry held in January 1950. Dr. Mehl summarized the present state of knowledge on titanium, its production, properties, and applications as related to defense efforts.

ORDNANCE RESEARCH

The Department of the Army recently announced the establishment of the Office of Ordnance Research. The primary function of this new Office will be to promote and support a program of basic research in those sciences which show promise of providing assistance to future ordnance development. Accordingly, the basic research projects that are to be supported, largely in colleges and universities, will be, for the most part, in the fields of chemistry, engineering, mathematics, and physics.

The National Research Council has been asked to assist the Office of Ordnance Research in evaluating the scientific merits of basic research proposals submitted in connection with this program. The plan agreed upon for rendering this assistance places the over-all responsibility for evaluation of proposals in the hands of an NRC Committee. Members of this Committee will be free to solicit advice from experts who possess special knowledge of and firsthand acquaintance with the status of research in the fields involved. The NRC Committee appointed to perform this advisory service will be headed by R. C. Gibbs, Chairman of the Division of Physical Sciences. Other members are J. W. Beams, University of Virginia; R. E. Connick, Executive Secretary, Division of Chemistry and Chemical Technology; C. R. Soderberg, Chairman, Division of Engineering and Industrial Research; Louis Jordan, Executive Secretary, Division of Engineering and Industrial Research; Saunders Mac Lane, University of Chicago; Marston Morse, Chairman, Division of Mathematics; and D. S. Tarbell, University of Rochester.

The Committee held its first meeting in Washington on July 11, at which several representatives of the Office of Ordnance Research were present. Offices for the administration of the program will be provided on the campus of Duke University, Durham, North Carolina.

HIGHWAY SAFETY

In response to a request from President Truman, based upon recommendations of the President's Highway Safety Conference of 1949, a Committee on Highway Safety Research has been established by the National Research Council. This Committee will carry on cooperative planning studies and encourage and correlate research programs on the basic causes underlying accidents on the highways. The emphasis will be on the field of human capacities, attitudes, and behavior of drivers and pedestrians as related to physical characteristics of the vehicle and the highway. The Committee membership has been set up to include representatives of the various fields of science which bear on highway safety research. It will report directly to the Chairman of the National Research Council and will correlate highway safety interests throughout all Divisions of the Council.

E. R. Hilgard, Dean of the Graduate Division and Professor of Psychology, Stanford University, has been appointed chairman of the new Committee. Other members include: T. W. Forbes, University of Hawaii, who will serve as Executive Secretary of the Committee; Meredith P. Crawford, Vanderbilt University (Chairman, Committee on Aviation Psychology, NRC); Rudolph F. King, Registrar of Motor Vehicles, Commonwealth of Massachusetts; W. M. Krogman, University of Pennsylvania (Chairman, Committee on Physical Anthropology, NRC); C. D. Leake, University of Texas (Chairman, Committee on Problems of Alcohol, NRC); H. C. Levinson, Kennebunk, Maine (Chairman, Committee on Operations Research, NRC); Colin M. MacLeod, New York University (Chairman, Armed Forces Epidemiological Board); Donald G. Marquis, University of Michigan (Chairman, Armed Forces-NRC Vision Committee); R. A. Moyer, University of California, Berkeley (Chairman, Highway Research Board, NRC); and Sidney Williams, Assistant to the President, National Safety Council.

Through the interest and support of Commissioner Thomas H. MacDonald of the Bureau of Public Roads it has been possible to initiate operations of the new Committee. The first meeting was held on June 12 in conjunction with the President's Highway Safety Conference. Dr. Forbes reported for duty as Executive Secretary on August first.

SECOND ALASKAN SCIENCE CONFERENCE

The Second Alaskan Science Conference will be held at Mt. McKinley National Park, Alaska, September 4–8, under the joint sponsorship of the University of Alaska and the newly established Alaska Division of the AAAS. The National Academy of Sciences–National Research Council and the Arctic Institute of North America will assist in planning the program.

The purpose of the Conference is to survey the progress of science in Alaska and to encourage collaboration among Alaskan scientists. The five-day program will include sectional meetings as follows: *Section A*, Agriculture, Botany, and Forestry; *Section B*, Medicine, Physiology, and Public Health; *Section C*, Wildlife; *Section D*, Geology and Geography; *Section E*, Geophysics, Meteorology, and Oceanography; *Section F*, Anthropology; *Section G*, Engineering, Industrial Science, and Aviation; and *Section H*, Sociology, Economics, and Education. Excursions in Mt. McKinley National Park are being arranged for conference members by the National Park Service.

The Chairman of the National Research Council has appointed the following individuals to serve as official representatives of the Research Council at the Alaskan Science Conference: John C. Reed, U.S. Geological Survey; Laurence Irving, Arctic Health Research Center; and Kirk Stone, University of Wisconsin.

The First Alaskan Science Conference was held in Washington in November 1950 under the sponsorship of the National Academy of Sciences–National Research Council. The proceedings of this Conference were published in April 1951 as NRC Bulletin No. 122.

ANIMAL HEALTH AND NUTRITION

The Committee on Animal Health recently issued a statement on the hog cholera problem in the United States. Hog cholera is still widespread and causes greater economic losses than any other disease in the swine industry. Although the use of serum and virus has protected individual herds, it has also kept the infection active. The report expressed the conviction that hog cholera could be eradicated and outlined procedures for accomplishing this.

Reports of the Committee on Animal Nutrition have had far-reaching effects, particularly in the feed-manufacturing industry. Its available publications on nutrient allowances include those for poultry, swine, dairy cattle, sheep, and horses, and a revised report on beef cattle. Three new subcommittees have been established for nutrient allowances for dogs, rabbits, and fur-bearing animals

The Committee on Laws, Rules and Regulations Governing Animal Health has completed its survey of the statutes of the 48 States and its report will be forthcoming as an NRC publication.

"CORN-GENE BANK"

The Committee on Indigenous Strains of Maize of the Division of Biology and Agriculture, NRC, with the cooperation of the U.S. Department of Agriculture and the Technical Cooperation Administration of the Department of State, is developing a program for collecting, classifying, perpetuating, and distributing to plant breeders the many varieties of maize (corn) native to the Western Hemisphere.

Funds for collecting and classifying the maize and for storage facilities will be provided by the Technical Cooperation Administration as a part of the Point Four Program. The National Research Council will act as the operating agency in carrying out the project. Maintenance and distribution of the collections, as well as perpetuation through periodic replanting to replace old seed, will be financed and handled through the facilities of the National Research Council.

The major objective of this program is the preservation of germ plasm that is essential to the improvement of economic varieties in Latin America and the United States. It is estimated that more than 2,000 types of maize will be involved in the program. Many of these native types are known but unavailable to plant breeders at the present time. These native types will be perpetuated.

FOOD PROTECTION

The Food Protection Committee of the Food and Nutrition Board is organizing a symposium on pesticides to be held at the meeting of the American Chemical Society in New York, September 3–7, 1951. The program includes twelve papers by authorities on the different phases of the pesticide problem covering toxicological evaluation of pesticides, both chronic and acute, and the relation of the use of pesticides to public health. Other papers emphasize the value and need for pesticides, their utilization for the increased production of high-quality food, the mode of action of pesticides and methods of biological and chemical evaluation, and the new and efficient methods of application by both ground machine and aircraft. Emphasis is also placed on methods and procedures for safe use and application of pesticides and on the protection of foods into which chemicals find their way incidentally in a comparatively small proportion of the fresh and processed foods on the market. This work includes the development of basic principles for the evaluation of the information which is essential to insure food protection.

In connection with the work of the Food Protection Committee, several statements have been prepared on the use of pesticides, chemical additives and surface active agents. Two of these statements have been given general distribution while others await further checking before being released. Those statements currently available through the Committee are entitled: "Basic Considerations Involved in Evaluating Hazards Encountered in the Use of Pesticides on Foods" and "Basic Principles Involved in Evaluating Safety in the Use of Chemical Additives in Foods."

GEOLOGY AND GEOGRAPHY

Division Appointments

Ernst Cloos, Professor of Geology, Johns Hopkins University, has been reappointed Chairman of the NRC Division of Geology and Geography for 1951–52. Richard J. Russell, Dean of the Graduate School, Louisiana State University, has been appointed Vice-Chairman. Dr. Russell replaces Stephen B. Jones, Yale University, who has served as Vice-Chairman of the Division for the past three years.

New members of the Division, recently appointed by the Chairman of the NRC, include the following representatives of affiliated societies and members-at-large: Charles B. Hitchcock, American Geographical Society; Earl Ingerson, Mineralogical Society of America; John N. Adkins, Seismological Society of America; H. B. Stenzel, Society of Economic Paleontologists and Mineralogists; L. L. Nettleton, Society of Exploration Geophysicists; David H. Dunkle, Society of Vertebrate Paleontology; Richard J. Russell, Louisiana State University (member-at-large); and Walter M. Kollmorgen, University of Kansas (member-at-large).

Committee on Globes

The Division of Geology and Geography has established a new Committee to consider problems relating to the construction and use of precise globes and spherical maps. This Committee, under the chairmanship of S. W. Boggs, Special Adviser on Geography, Department of State, has already held two meetings and has outlined a comprehensive program to be undertaken immediately. Members of the Committee include: Wallace W. Atwood, Jr., NRC; William Briesemeister, American Geographical Society; Col. Thomas L. Crystal, U.S. Air Force; Richard Edes Harrison, Private Cartographer; Arthur Lundahl, Department of the Navy; Robert H. Randall, U.S. Bureau of the Budget; Paul A. Siple, Department of the Army; and Charles S. Spooner, Army Map Service.

Committee on Topographic Maps

Another new committee, established by the Division of Geology and Geography, will be known as the Committee on Topographic Maps Illustrating Cultural Geography. Walter W. Ristow, Assistant Chief of the Map Division, Library of Congress, has been appointed Chairman. Other members of the Committee include C. F. Feuchsel, U.S. Geological Survey; Fred B. Kniffen, Louisiana State University; Edward B. Espenshade, Jr., Northwestern University; Richard F. Logan, University of California at Los Angeles.

The purpose of this new Committee is to compile a list of the best topographic maps illustrating cultural features. The task will require examination of several hundred maps. The completed list will complement the list of 100 topographic maps issued by the U.S. Geological Survey several years ago.

DERMATOLOGIST JOINS STAFF

Leon H. Warren, until recently engaged in private medical practice in Philadephia, has been appointed Professional Associate in the Division of Medical Sciences, NRC.

During the war, Dr. Warren was a member of the staff of the Surgeon General's Office of the War Department. He attained the rank of Lieutenant Colonel before leaving the military service in 1945.

Dr. Warren, a dermatologist, for several years specialized on industrial skin diseases and visited factories throughout the United States to study the conditions under which various skin diseases developed. One of his first duties at the National Research Council will be to initiate the work program of the Subcommittee on Dermatology recently established by the Committee on Medicine. He will work also with other committees of the Division.

CHEMICAL-BIOLOGICAL COORDINATION CENTER

Second Symposium

The Second Symposium on Chemical-Biological Correlation, sponsored by the Chemical-Biological Coordination Center, NRC, will be held at the Academy–Council on October 24 and 25, 1952. Charles P. Huttrer, Research Associate of the Center, is Chairman of the Program Committee. Other members are Remington Kellogg, Smithsonian Institution; J. W. Mitchell, Department of Agriculture; and H. Eagle and J. F. Yeager, National Institutes of Health. It is hoped that the program can include one or more scientific movies dealing specifically with the effect of chemicals upon biological systems such as organisms, organs, tissue cells, etc. Information as to the availability of such movies would be appreciated by the Program Committee.

Review Article

Chemical Reviews, June 1951, carries an article by Charles P. Huttrer and Estaleta Dale entitled "The Chemistry and Physiological Action of Khellin and Related Products." This article reviews the widely dispersed literature on Khellin, a compound known for centuries in Egypt where it was used in the form of a crude extract as a home remedy for the relief of urinary spasms. Pure Khellin has lately been discovered to possess remarkable activity as a coronary vasodilator. Several American pharmaceutical houses have recently marketed the product, but its clinical use is often accompanied by some undesirable side effects.

INTERNATIONAL RELATIONS

SCIENTIFIC UNIONS

ICSU

The Annual Meeting of the Executive Board of the International Council of Scientific Unions will be held at the National Academy of Sciences–National Research Council, October 15–19. Plans for the meeting are being arranged by F. J. M. Stratton, General Secretary of ICSU, and John A. Fleming, member of the Executive Board, and Past-President of ICSU. Alexander von Muralt of the University of Berne, President of ICSU, will be in charge of the meeting.

In addition to the twenty members of the Executive Board representing nine different countries, observers from Canada, Mexico, and the United States have been invited to attend the meeting. The first three days, October 15–17, will be devoted to business sessions. October 18 has been reserved for a general symposium, open to the public, on international cooperation in science. Invited speakers include: Alexander von Muralt, President of ICSU (Switzerland); F. J. M. Stratton, General Secretary, ICSU (England); J. N. Mukherjee, Director, Central Building Research Institute (India); Detlev W. Bronk, President, National Academy of Sciences (USA); C. J. Mackenzie, President, National Research Council (Canada); and Joseph B. Koepfli, Science Adviser, Department of State (USA).

IUPAP

The United States was represented at the Seventh General Assembly of the International Union of Pure and Applied Physics held in Copenhagen, July 11–14, by the following official delegation: John A. Wheeler, Princeton University, *Chairman;* Henry A. Barton, American Institute of Physics; David M. Dennison, University of Michigan; Harald H. Nielson, Ohio State University; and Louis A. Turner, Argonne National Laboratory. Alternate delegates were Karl K. Darrow, Bell Telephone Laboratories; Elmer Hutchisson, Case Institute of Technology; Thomas Lauritsen, California Institute of Technology; and John C. Slater, Massachusetts Institute of Technology.

The U.S.A. National Committee, which represents the physicists of the United States in all matters relating to the International Union of Pure and Applied Physics, has drafted a constitution and set of by-laws defining its functions and establishing procedures for operation. These documents were approved by the National Research Council at a meeting held on June 24 and will become effective January 1, 1952.

IUGG

The Government of the United States has designated an official delegation of ten scientists to represent this country at the Ninth General Assembly of the International Union of Geodesy and Geophysics to be held in Brussels August 21–September 1.

Walter H. Bucher, Professor of Structural Geology at Columbia University and President of the American Geophysical Union, will serve as Chairman of the delegation and will represent the United States on the Council of the Union. Other members of the delegation are K. Hilding Beij, National Bureau of Standards; Francis Birch, Harvard University; Perry Byerly, University of California; Horace R. Buyers, University of Chicago; L. P. Disney, U.S. Coast and Geodetic Survey; J. Wallace Joyce, Department of State; Walter D. Lambert, U.S. Coast and Geodetic Survey, Retired; Waldo E. Smith, American Geophysical Union; and F. J. Veihmeyer, University of California.

The National Research Council which adheres to the IUGG on behalf of the United States Government has appointed 34 scientists to represent it at the General Assembly. These representatives were nominated by the U.S.A. National Committee of the Union and appointed by the Chairman of the National Research Council. In addition to the ten official delegates listed above, the NRC representation will include the following: L. H. Adams, Carnegie Institution of Washington; Charles R. Burrows, Cornell University; Maurice Ewing, Columbia University; Ross Gunn, United States Weather Bureau; Beno Gutenberg, California Institute of Technology; George H. Harding, Ohio State University; Floyd W. Hough, Army Map Service; Edward O. Hulburt, Naval Research Laboratory; W. C. Jacobs, Department of the Army; Joseph Kaplan, University of California; Serge A. Korff, New York University; Walter Langbein, U.S. Geological Survey; Walter C. Lowdermilk, University of California; John Lyman, Department of the Navy; Frank Neumann, U.S. Coast and Geodetic Survey; Walter Ruska, Ruska Instrument Corporation; A. Nelson Sayre, U.S. Geological Survey; J. Frank Schairer, Carnegie Institution of Washington; Louis B. Slichter, University of California; Paul Sollenberger, U.S. Naval Observatory; Charles A. Whitten, U.S. Coast and Geodetic Survey; George P. Woollard, University of Wisconsin; James Balsley, Jr., U. S. Geological Survey; and J. A. B. Bjerknes, University of California.

Information received from the U.S.A. National Committee of the Union indicates that 80 to 90 scientists from the United States will attend the General Assembly in Brussels and participate in the meetings of the seven international associations which are members of the IUGG and hold their scientific sessions concurrently.

IUPAC

The Chairman of the National Research Council has designated the following chemists to represent the United States at the Sixteenth Conference of the International Union of Pure and Applied Chemistry to be held in New York City, September 8–9, and in Washington, September 14–15: Ernest H. Volwiler, Abbott Laboratories, *Chairman;* Paul D. Bartlett, Harvard University; Herbert E. Carter, University of Illinois; G. E. Hilbert, U. S. Department of Agriculture; E. V. Murphree, Standard Oil Development Company; and Kenneth S. Pitzer, University of California. Orville E. May, Coca-Cola Company; William J. Sparks, Standard Oil Development Company; and Walter H. Stockmayer, Massachusetts Institute of Technology, will serve as alternate representatives.

The following scientists have been invited to represent the National Research Council at the Twelfth International Congress of Chemistry: L. F. Curtiss, National Bureau of Standards; John T. Edsall, Harvard Medical School; Alden H. Emery, American Chemical Society; Karl A. Folkers, Merck and Company, Inc.; I. M. Kolthoff, University of Minnesota; J. Murray Luck, Stanford University; H. F. Mark, Polytechnic Institute of Brooklyn; Austin M. Patterson, Antioch College; Frederick D. Rossini, National Bureau of Standards; Foster D. Snell, Foster D. Snell, Inc.; and Edward Wichers, National Bureau of Standards.

IAU

At a luncheon conference held on June 23, members of the U.S.A. National Committee of the International Astronomical Union and others considered informally some of the questions relating to the nature, time, and place of the next meeting of the Union. These questions will come up for more formal consideration at the meeting of the Executive Committee of the Union which is scheduled to be held in Paris, September 4–6.

In addition to members of the National Committee, the conference group included members of the Council of the American Astronomical Society; B. Stromgren, General Secretary of the Union; Joseph B. Koepfli, Science Adviser, Department of State; Wallace W. Atwood, Jr., Executive Secretary, Division of International Relations, NRC; R. C. Gibbs, Chairman, Division of Physical Sciences, NRC; and D. H. Menzel, Harvard Observatory.

URSI

The U.S.A. National Committee of the International Scientific Radio Union (URSI) announces the election of the following officers: C. R. Burrows, Cornell University, *Chairman;* Newbern Smith, National Bureau of Standards, *Vice-Chairman;* A. H. Waynick, Pennsylvania State College, *Secretary-Treasurer;* and L. V. Berkner, Associated Universities, Inc., Brookhaven National Laboratory, *Junior Past Chairman.* Newly elected members-at-large of the Committee for four-year terms ending June 30, 1955, are as follows: R. A. Helliwell, Stanford University; D. H. Menzel, Harvard University; and J. A. Morton, Bell Telephone Laboratories.

Chairmen of National Commissions of URSI for the period ending with the close of the spring meeting of the National Committee in 1953 have been designated as follows:

Commission on Radio Standards and Methods of Measurements: F. J. Gaffney, Polytechnic Research and Development Company.

Commission on Tropospheric Radio Propagation: A. W. Straiton, University of Texas.

Commission on Ionospheric Radio Propagation: H. G. Booker, Cornell University.

Commission on Terrestrial Radio Noise: H. E. Dinger, Naval Research Laboratory.

Commission on Extraterrestrial Radio Noise: A. H. Shapley, National Bureau of Standards.

Commission on Radio Waves and Circuits, Including General Theory and Antennae: Samuel Silver, University of California at Berkeley.

Commission on Electronics: J. A. Morton, Bell Telephone Laboratories.

The chairmen of the above National Commissions are ex-officio members of the corresponding International Commissions of the Union.

IGU

Walter W. Ristow, Assistant Chief of the Map Division, Library of Congress, has accepted an appointment as Executive Secretary of the U.S.A. National Committee of the International Geographical Union (IGU). He reported for duty on July 17. Dr. Ristow will be in charge of preparations for the Eighth General Assembly and Seventeenth Congress of the IGU to be held in Washington, August 8–15, 1952. Dr. Ristow served as Secretary of the Association of American Geographers from 1949 to 1951 and currently is chairman of the Middle Atlantic Division of the Association. Upon completion of his special assignment with the U.S.A. National Committee he will return to his position at the Library of Congress.

REPRESENTATION AT INTERNATIONAL MEETINGS

The Chairman of the National Research Council has appointed a total of approximately 60 scientists to represent the Council at various international scientific meetings scheduled for August and September of this year. The largest number will attend the Ninth General Assembly of the International Union of Geodesy and Geophysics in Brussels. The next largest number will attend the XVIth Conference of the International Union of Pure and Applied Chemistry in New York City and Washington. The names of Research Council representatives to these two Union meetings are listed separately under IUGG and IUPAC respectively.

Other international meetings at which the Research Council will be represented, together with the names of appointed representatives, are listed below:

Eighth International Congress on Refrigeration, London, August 22–September 11

Paul B. Christensen, President, American Society of Refrigerating Engineers.

International Congress on Poliomyelitis, Copenhagen, September 3–7

Thomas Francis, Jr., University of Michigan; Frank Horsfall, Jr., Rockefeller Institute for Medical Research; John Rodman Paul, Yale University; Thomas Rivers, Rockefeller Institute for Medical Research.

International Federation for Documentation, General Conference, Rome, September 14–16

Milton O. Lee, National Research Council.

International Congress of Anesthesia, Paris, September 20–22

Henry K. Beecher, Massachusetts General Hospital.

International Light Committee, Paris, September 26–30

Harold F. Blum, Princeton University; Alexander Hollaender, Oak Ridge Institute for Nuclear Studies.

INTERNATIONAL BERLIN WEEK

At the invitation of the Technical University, Berlin–Charlottenburg, and the Free University, Berlin, Joel H. Hildebrand of the University of California attended the International Berlin Week for Natural Sciences, May 24–30, and presented a paper entitled "Theory of Nonelectrolytic Solutions." In a recent letter written since his return to the United States, Dr. Hildebrand reports his impressions of the meetings. The following excerpts from his letter will be of interest to readers of NEWS REPORT.

"To again see Berlin, once the world's chief center of scientific activity, and now a focal point of international tension, proved, as I expected, extraordinarily interesting. This was the first post-war scientific gathering which had been attempted in Berlin, but it was organized and managed to perfection by Professor Dr. J. D'Ans and his committee. The first days were devoted mainly to the biological sciences, the later days featured the physical sciences. There were 62 papers in all, half of them by Berliners, and some ten by men living in Soviet-occupied territory. Such scientists as more or less willingly agreed to work under Soviet domination are permitted to go into the Western Zone. Western residents can go into the Eastern Zone but are guarded as strictly as possible from seeing the contrast between the abundance of food and goods in the West and the bare shops in the East.

"A notable address at one of the general sessions was delivered by Professor Otto Hahn on 'Radium und Atomforschung als Beispiel Internationaler Zusammenarbeit.' I had met him in Berlin in 1907. A remarkable and hugely attended demonstration was given by Dr. E. Müller. It was entitled 'Beobachtung einzelner Atome und Moleküle mit Feldelektronenmikroskop.'

"The auditorium of the Physical Institute, in which the meetings were held, has 2500 seats. This was always well filled and at certain times hundreds were standing around the walls and sitting in the aisles. In no other city in the world could one find such interest in pure science. Berlin is a pool of scientific manpower, actual and potential, that should be saved for the free world.

"One must admire the courage of the people in Western Berlin in rebuilding their city and their educational and research facilities. Such men as Professors Max von Lane, Otto Warburg and I. N. Stransky are active in the re-equipped Kaiser Wilhelm Institute, although, as one scientist put it, they 'are sitting in the midst of the Red Sea.' Another explained that although he is living comfortably, and has every facility for research, he feels 'like a traveller on a luxury liner that has a leak.'

"Foreign guests were treated with the utmost cordiality. We were entertained by Dr. E. Reuter, the Regierender Burgomeister and the Senate of Berlin, and by Dr. H. Vockel, 'Bevolmächtigter der Bundesrepublik Deutschland,' and by the university students in a clever 'Heiterer Abend.'

"I felt that the trip was well worthwhile as a contribution to the revival of international goodwill and understanding among scientists. I think that all American scientists who can do so, particularly those who speak German, should consider including Germany in their European travels."

CONSULTATION ON GEOGRAPHY

The Government of the United States will be host to the Third Pan American Consultation on Geography to be held in Washington July 25 through August 4, 1952. Official invitations will be extended by this Government to the governments of the other American Republics. The Consultation is a major activity of the Pan American Commission on Geography which is one of the three Commissions organized by the Pan American Institute of Geography and History. The United States representative on the Commission on Geography is Preston E. James, Syracuse University. He is assisted by a 26-member National Advisory Committee headed by Clarence F. Jones, Northwestern University.

At the request of the Department of State the Chairman of the National Research Council has designated Wallace W. Atwood, Jr., Executive Secretary of the Division of International Relations, to represent the Research Council on the Organizing Committee for the Third Consultation.

WORLD METALLURGICAL CONGRESS

The first World Metallurgical Congress will be held in Detroit, October 15–19, under the sponsorship of the American Society for Metals. Top-ranking metal scientists and engineers from the free countries of the world will attend. Zay Jeffries, retired Vice-President of General Electric Company and a member of the National Academy of Sciences, will serve as Director General of the Congress.

Congress visitors, more appropriately referred to as "conferees," will arrive in the United States about September 15. They will spend approximately five weeks in the country. The first four weeks will be devoted to inspection tours of industrial, Government, and educational institutions in order to observe at first hand the scientific, industrial, and educational advances that have taken place during the past few years. Approximately 150 plants in 13 states and 57 cities will be visited.

Delegations of metal scientists from Marshall Plan countries will attend the Congress and participate in the tours, through the Technical Assistance Program sponsored by the Economic Cooperation Administration. Delegations from Australia, Japan, India, Spain, Mexico, and several of the South American countries also will attend and take part in the tours and other features of the Congress being arranged by the Organizing Committee.

The primary purpose of the Congress is to provide opportunities for metal scientists and engineers from the free countries of the world to deal jointly with problems of conservation, utilization, and substitution of strategic materials and to share scientific knowledge and technique and business know-how. It is hoped that the Congress will further international understanding through the interchange of ideas among scientists.

Information regarding the World Metallurgical Congress and the inspection tours being arranged for members of the Congress may be obtained from W. H. Eisenman, Secretary, American Society for Metals, 7301 Euclid Avenue, Cleveland 3, Ohio.

FILARIASIS CONFERENCE

Experts on filariasis and elephantiasis will meet in Tahiti in August of this year under the auspices of the South Pacific Commission. The objectives of the Conference may be summarized briefly as follows: *a*) to define the problems of filariasis and elephantiasis in Tahiti; *b*) to evaluate various possible control measures; and *c*) to develop plans for initiating controls and securing the cooperation of the Tahitian population in any program that is undertaken. The Conference group also will review the research programs dealing with human filariasis which have been conducted during the past three years under the direction of the Institut de Recherches Medicales de l'Oceanie Français.

Attendance at the Conference will number approximately thirty and will include representatives from Australia, New Zealand, Indo-China, Fiji, New Caledonia, United States, the World Health Organization, and the South Pacific Commission. The United States delegation will include W. H. Wright, National Institutes of Health; Lt. Leo A. Jachowski, U.S. Navy; John F. Kessel, Filariasis Foundation, University of Southern California; Redginal Irving Hewitt, American Cyanamid Company; Stephen M. K. Hu, Board of Health, Territory of Hawaii; and Harold J. Coolidge, Executive Director, Pacific Science Board.

RESEARCH FACILITIES IN MADAGASCAR

The Institute for Scientific Research of Madagascar has informed the Consul General of the United States in Tananarive that the Institute will be glad to provide research facilities for a limited number of foreign scientists desiring to work in Madagascar. The present program of the Institute is limited to the fields of entomology, botany, hydrology, chemistry, and soil physics. It is believed that research workers in these fields will find essential reference materials available at the Institute. Scientists interested in carrying on research in Madagascar are invited to write to the Director of the Institute in Tananarive.

SCIENTIFIC PERSONNEL

FELLOWSHIPS IN AERONAUTICS

The Fellowship Office of the National Research Council has announced the award of nine fellowships in aeronautics for study abroad during the academic year 1951–1952. The following list of appointees indicates the institution from which the recipient received his degree as well as the location of his fellowship work:

Predoctoral Fellows

Mark H. Clarkson (M.A., University of Texas, 1948) University of Manchester, England.

James T. Curtis (B.A., State University of Iowa, 1946) Technische Hochschule, Austria

Ralph W. Detra (B.S., Cornell University, 1946) Eidgenossische Technische Hochschule, Switzerland

Charles H. Propster, Jr. (B.S., University of Missouri, 1951) Delft Institute of Technology, Netherlands

Vernon J. Rossow (M.S., University of Michigan, 1949) Eidgenossische Technische Hochschule, Switzerland

Alvin H. Sacks (M.S., Cornell University, 1949) École Nationale Supérieure de l'Aéronautique, France

Franki Lou van der Wal (B.S., University of California, 1949) Royal Institute of Technology, Sweden

Postdoctoral Fellows

Robert H. Scanlan (Ph.D., Massachusetts Institute of Technology, 1943) École Nationale Supérieure de l'Aéronautique, France.

Ralph Bray (Ph.D., Purdue University, 1949) Delft Institute of Technology, Netherlands

STAFF APPOINTMENT

Commodore Robert E. Robinson, Jr., USN (Retired), joined the staff of the Office of Scientific Personnel on July 2. He came aboard without fanfare and promptly found the only available space in the building and went to work. He is located temporarily in the Chairman's office which was left vacant when Dr. Whitaker completed his term as Chairman of the Research Council on June 30 and returned to Stanford University.

Commodore Robinson has had a distinguished record in the Navy and has served in several staff positions which prepared him for his present assignment. He was Chief of Staff to the Commander, North Pacific Force, 1943–45; Naval Attache for Scientific Research at the American Embassy in London, 1945–47; and Commanding Officer at the Naval Ammunition Depot at Shumaker, Arkansas, 1947–49. Upon retirement from the Navy in 1949, he became Executive Assistant at New York University, College of Engineering.

Commodore Robinson's duties at the National Research Council are not easy to define. He will work with M. H. Trytten, Director of the Office of Scientific Personnel, on the major task of bringing about more effective utilization of scientific and technical skills in the military and civilian activities of the country. He will assemble the basic information with which to evaluate present manpower utilization and upon which new policies for better utilization can be drafted. In short, Commodore Robinson will be working on the problem presented by Dr. Trytten in his article "The Manpower Shortage" appearing in this issue of NEWS REPORT.

GRANTS FOR ARCTIC RESEARCH

The Arctic Institute of North America is offering a number of research grants in 1952 for scientific investigations dealing with the arctic and subarctic regions. Research must include either field investigations in North America or studies at one of the Institute offices.

Applications for research grants will be considered from those who have demonstrated their ability to conduct research work of superior quality in some field of science. Preferences will be given to residents of North America.

The research grants will be awarded on the recommendation of the Board of Gov-

ernors of the Arctic Institute and will be announced not later than March 1952. Completed applications must be received by November 1, 1951. Application forms may be obtained upon request to the Research Committee, Arctic Institute of North America, Broadway at 156th Street, New York 32, New York, or 3485 University Street, Montreal, Canada.

SURVEY OF SCIENTISTS IN TRAINING

A contract has been awarded to the National Research Council by the National Science Foundation for a study of scientists in training within the United States. Further information on the study, which will be conducted by the Office of Scientific Personnel, will appear in a subsequent issue of NEWS REPORT.

AFFILIATED SOCIETIES

This Department of NEWS REPORT is reserved for announcement of annual meetings, research programs, and other activities of societies which are affiliated with the NRC.

ILLUMINATING ENGINEERING SOCIETY

Samuel G. Hibben, Director of Applied Lighting in the Westinghouse Electric Corporation, has been elected President of the Illuminating Engineering Society and will take office on October 1. Other officers elected for the coming year are: A. H. Manwaring, Philadelphia Electrical and Manufacturing Company, *Vice-President;* R. F. Hartenstein, Ohio Edison Company, *Treasurer;* and C. C. Keller, Hollophane Company, Inc., *General Secretary.*

OPTICAL SOCIETY OF AMERICA

The Thirty-Sixth Annual Meeting of the Optical Society of America will be held in Chicago, October 23 and 24. This meeting will recognize the twentieth anniversary of the founding of the American Institute of Physics. Meetings of the five Founder Societies are scheduled for the same week, with Thursday, October 25, reserved for a special anniversary program of invited papers.

AMERICAN PHYSICAL SOCIETY

Meetings of the American Physical Society for the period from October 1951 through June 1952 have been scheduled as follows: Chicago, October 25–27; Houston, November 30 and December 1; Berkeley, December 27–29; New York City, January 31–February 2; Columbus, March 20–22; Washington, May 1–3; and Denver, late June.

AMERICAN SOCIETY FOR TESTING MATERIALS

The year 1952 will mark the fiftieth anniversary of the incorporation of the American Society for Testing Materials. To celebrate this occasion the Society is arranging a special program including a series of technical symposia to be featured at the Annual Meeting in New York City, June 23–27, 1952. The Tenth Exhibit of testing apparatus and related equipment and the biennial photographic exhibit will be in progress throughout the period of the meeting.

The 1952 Spring Meeting of the Society will be held in Cleveland, Ohio, March 3–7.

SOCIETY OF NAVAL ARCHITECTS AND MARINE ENGINEERS

The Society of Naval Architects and Marine Engineers will meet in Washington, September 6 and 7. This meeting will be held in conjunction with the Sixth International Conference of Ship Tank Superintendents which is being sponsored jointly by the Society and the American Towing Tank Conference. Foreign delegates to the International Conference will be guests at the meeting of the Society.

The September 6 and 7 meeting is planned in lieu of the usual Spring Meeting of the Society. The program will consist of four technical sessions at which a total of nine papers will be presented.

THE CALENDAR

The following Academy–Research Council meetings will be held in Washington unless otherwise indicated. Attendance is restricted to members and invited guests except when meetings are announced as open to the public.

September

3 American Institute of Biological Sciences, Advisory Committee on Physiology, *Salt Lake City, Utah*

4–8 Second Alaskan Science Conference, *Mt. McKinley National Park, Alaska*

6–8 Committee on Economic Geography, *Evanston, Ill.*

20 Committee on Sanitary Engineering and Environment

RECORD OF MEETINGS

June

1 Food Protection Committee

1 Committee on Army Medical Service Graduate School

6 Subcommittee on Chemistry of Blood Coagulation

6 Conference on Air Drop of Supplies

7 Cobalt Panel

8 Titanium End Uses–Aircraft

8 Committee on Drug Addiction and Narcotics

8 Liaison Committee on Mathematics

8 Committee on Shock

8 Metallurgical Advisory Board

8–9 Subcommittee on Burns

11 Committee on Surgery, *Atlantic City, N. J.*

11 Department Chairmen, Highway Research Board

12 Executive Committee, Highway Research Board

13–15 President's Highway Safety Conference

15 Project Advisory Committee on Ship Steel

18 Executive Subcommittee on Aviation Psychology

19 Advisory Committee on Intergovernmental Relationships in Highway Affairs

22 Titanium Panel

22 Committee on Globes

23 U.S.A. National Committee, International Astronomical Union

25 Committee on Growth, *San Francisco, Calif.*

25–27 Committee on Flexible Pavement Design, *Lexington, Ky.*

26 Subcommittee on Boron Availability

27 Boron Availability

28 Food Protection Committee

28 Metallurgical Advisory Board

July

9 Boron Panel

11 Committee, Advisory to Office of Ordnance Research, Department of the Army

12 Section VIII Review Committee, Glossary of Nuclear Energy Terms

12 Committee on Off-Street Parking in Relation to Business

12 Graduate Deans, Advisory to Office of Scientific Personnel on Doctorate Survey and Survey of Scientists in Training

13 Manganese Panel

21 Committee on Vitamin Deficiency Studies at Elgin State Hospital, *Elgin, Ill.*

27 Subcommittee on Ship Structure

27–28 Section I Review Committee, Glossary of Nuclear Energy Terms

30 Subcommittee on Toxicology, *Rochester, N. Y.*

NEW PUBLICATIONS

Highways with a Narrow Median. Highway Research Board Bulletin No. 35. National Research Council, 1951. 95 p. $1.50.

TOVERUD, K. U., STEARNS, GENEVIEVE, and MACY, I. G. *Maternal Nutrition and Child Health, An Interpretive Review.* Bulletin No. 123. National Research Council, 1950.

Pavement Marking. Highway Research Board Bulletin No. 36. National Research Council, 1951. 24 p. $0.45.

Report of the Committee on Paleobotany. No. 19, 10 p.; No. 20, 20 p.; No. 21, 31 p. National Research Council, 1951. Mimeographed.

Scour Around Bridges. Highway Research Board Research Report No. 13-B. National Research Council, 1951. 22 p. $0.45.

Summary Tables of Biological Tests. National Research Council, 1951. Vol. 3, No. 3, 62 p.

Symposium on Burns. National Research Council, 1951. 207 p.

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